

# GIFIC

## A Graphical Interface For Intensive Care

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*GIFIC (Graphical Interface for Intensive Care) applies a new graphical language paradigm to intensive care unit information. By using this new graphical paradigm, coupled to simple rule based decision making tools, a complete display of intensive care unit patient information can be placed on a single screen. This includes such diverse items as lab work, cultures, patient devices, input and output and imaging studies. This article represents the initial time/accuracy, and training time studies based on this technology. Preliminary data suggests that significant time savings, without loss of accuracy of assessment can be obtained with as little as 8 hours of training.*

### INTRODUCTION

When completing tasks in complex, dynamic domains observers must consider the relationships among many variables (integrated tasks) as well as the values of individual variables (focused tasks)[1]. This is precisely what physicians do in evaluating the complex illnesses typically seen in an intensive care unit when they review signs and symptoms, laboratory information, and results of specialized diagnostic studies. Recently a new graphical language paradigm has been applied to information in the intensive care unit producing a robust display of patient information. This display design is the first to provide an evaluable summary of a complex database of patient information, while at the same time, providing access to specific data points within the database, thus accomplishing proximity capability[1] for both high proximity and low proximity tasks without the typical performance trade-offs between integrated and focused tasks[1]. This paper details the results of the first time/accuracy comparative study using this display technology.

### METHODS / RESULTS

A double blind study was performed assessing a physicians ability to complete patient

assessments under timed conditions using a typical chart and flowsheet vs a single piece of paper displaying the GIFIC printout. Assessment sheets were independently scored on a scale of 1 to 10, 10 being perfect accuracy.

All patients were picked at random by the nurse manager in the CCU and were unknown to all reviewing physicians. No patient examination was allowed, however the "Chart" physician did have access to all patient progress notes, histories and physicals, etc. The "GIFIC" physician had access to a single sheet of paper (the GIFIC printout).

The results of the first study are shown in Table I. Although the accuracy grades were not statistically different (paired T test,  $p = 0.13$ ), the time differential was of high statistical significance ( $p < 0.001$ ).

Table I

Pt #	GIFIC		Chart & Flowsheet	
	Min:Sec	Score	Min:Sec	Score
1	4:55	5	15:25	8
2	3:38	9	6:40	9
3	5:05	9	9:15	9
4	4:03	9	8:45	9
5	3:20	7	5:55	9
6	2:30	9	7:18	8
7	4:35	9	9:55	8
8	4:53	8	9:45	9
9	5:45	7	10:15	9
10	6:30	8	15:13	9
M	4:33	8.0	9:50	8.7

### REFERENCES

1. Bennett, K.B., and Flach, J.M., Graphical Displays: Implications for Divided Attention, Focused Attention, and Problem Solving. Human Factors, 34(5), 513-533, 1992